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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT P. ARENTSEN, CHALARD BUNLUAPHOB,
PRASERT BURANATUM, DANIEL E. SCHAFFER, and
LISA E. HATHY-RILES

Appeal 2009-0793
Application 10/721,481
Technology Center 3700

Decided: January 16, 2009

Before LINDA E. HORNER, JOHN C. KERINS, and
STEVEN D.A. McCARTHY, *Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Robert P. Arentsen et al. (Appellants) seek review under 35 U.S.C. § 134 of the final rejection of claims 22-25 and 27-29, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We AFFIRM.

THE INVENTION

The Appellants' claimed invention is directed to an isolation valve assembly including a quarter turn ball valve, an insert, and a flange. Spec. ¶ 0011. The flange is rotatably carried on the outer surface of the insert. *Id.* Claims 22 and 27, reproduced below, are representative of the subject matter on appeal.

> 22. A valve assembly comprising:
>
> a quarter turn ball valve including a valve housing having inlet and outlet ports;
>
> an insert having a body member including an exterior surface and an internal flow channel, one end of the insert being coupled to the valve housing so that the internal flow channel communicates with one of the ports, a lip formed on the free end of the body member, the lip being spaced from the valve housing when the insert is assembled to the valve housing;
>
> a flange carried on the exterior surface of the insert between the lip and the valve housing, the flange being freely rotatable relative to the insert and the valve housing when the insert is assembled to the valve housing, and fastener holes formed in the flange for receiving fasteners that secure the valve assembly in a fluid system.

27. A valve assembly comprising:

a quarter turn ball valve mounted in a valve housing formed with inlet and outlet ports;

an insert including a body member having an exterior surface and an internal axial flow channel, one end of said body member being fixed to the valve housing so that the exterior surface extends axially from the valve housing and the internal axial flow channel communicates with one of the ports, a lip formed on the free end of the body member and spaced from the valve housing by the exterior surface of the insert;

a flange having central opening formed therein of a size and shape complementary to the exterior surface of the insert so that the flange is spaced from the valve housing and freely rotatable on the exterior surface of the insert.

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Keller III ("Keller")	US 3,241,810	Mar. 22, 1966
Rocheleau	US 2002/0162986 A1	Nov. 7, 2002

The Examiner made the following rejections which are at issue in this appeal:

1. Claims 22-25 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.
2. Claims 22, 24, 25, and 27 are rejected under 35 U.S.C. § 102(e) as anticipated by Rocheleau.

3. Claims 22 and 27 are rejected under 35 U.S.C. § 103(a) as unpatentable over Rocheleau.
4. Claims 23, 28, and 29 are rejected under 35 U.S.C. § 103(a) as unpatentable over Rocheleau and Keller.

ISSUES

The Examiner determined that no support exists in the originally-filed Specification for the claim limitation that the flange is freely rotatable relative to the insert and the valve housing when the insert is assembled to the valve housing. More specifically, the Examiner found that the originally-filed Specification lacks support for a flange which can rotate freely after the insert is assembled to the valve housing. Ans. 4. The Appellants contend that the originally-filed Drawings, Specification, and Claims describe a "valve assembly" having a "rotatable flange." App. Br. 13.

The first issue presented by this appeal is:

Have the Appellants shown the Examiner erred in determining that the originally-filed Specification lacks sufficient written descriptive support for a flange that can rotate freely after assembly?

The Examiner found that Rocheleau discloses the valve assembly of claims 22 and 27. Ans. 5. The Appellants argue that the flange element of Rocheleau is not rotatable or adjustable after the valve assembly is formed. App. Br. 8, 11.

The second issue presented by this appeal is:

Have the Appellants shown the Examiner erred in finding that Rocheleau discloses a flange that is freely rotatable relative to the insert and the valve housing of the valve assembly?

The Examiner determined that the valve assembly of claims 23, 28, and 29 would have been obvious to one having ordinary skill in the art in view of the teachings of Rocheleau and Keller. Ans. 6. The Appellants argue that Keller cannot render the claimed subject matter obvious because Keller "is lacking any disclosure relevant to coupling parts together," and thus "[t]here is no teaching, motivation or suggestion to combine the Keller III valve stem with Applicants' insert." App. Br. 15.

The third issue presented by this appeal is:

Have the Appellants shown the Examiner erred in determining that one having ordinary skill in the art would have had a reason to combine the teachings of Rocheleau and Keller?

FINDINGS OF FACT

We find that the following enumerated findings are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. The customary meaning of "assembly," as a noun, is a collection of parts fit together into a complete machine, structure, or unit. App. Br. 7 (citing *Merriam-Webster's Collegiate Dictionary*, Eleventh Edition (First Printing 2003)).

2. The Appellants' Specification describes in the Background of the Invention:

> Mating flanges are commonly used to couple isolation valves to the system components. In order to couple the component to the isolation valves, the bolt holes in the mating flanges must be matched up accurately. This may be difficult in tight spaces with heavy, cumbersome components. Spec. 2:¶ 0004.

3. Figure 1B of the Appellants' Specification shows a perspective view of an isolation valve assembly in an assembled condition. Spec. 4:¶ 0015.

4. The Appellants' Specification describes that the valve assembly of Figure 1B includes a valve 98, insert 102, and rotatable flange 106. Spec. 5:¶ 0024.

5. The Appellants' Specification describes that the diameter of a central hole 115 formed in rotatable flange 106 is such that it snugly, but rotatably fits on the exterior of the insert 102. Spec. 6:¶ 0029.

6. The Appellants' Specification describes that the insert 102 includes a lip 104 that prevents "rotatable flange 106" from being removed from the assembled valve assembly. Spec. 7:¶ 0029.

7. The Examiner found that "Rocheleau discloses a quarter turn ball valve (8) including a valve housing (10) having inlet and outlet ports, an insert (16) having a body member including an exterior

surface and an internal flow channel (Col.3, Lns. 12-14), one end of the insert being coupled to the valve housing so that the internal flow channel communicates with one of the ports, a lip (16) formed on the free end of the body member, [and] the lip being spaced from the valve housing when the insert is assembled to the valve housing." Ans. 5.

8. The Examiner further found that Rocheleau discloses "a flange (28) carried on the exterior surface of the insert between the lip and the valve housing" and "fastener holes (30) formed in the flange for receiving fasteners that secure the valve assembly in a fluid system." Ans. 5.

9. The Examiner further found that Rocheleau discloses "one end of the body member being fixed to the valve housing so that the exterior surface extends axially from the valve housing and the internal axial flow channel communicates with one of the ports." Ans. 5

10. The Appellants do not contest any of the findings made by the Examiner as to the disclosure of Rocheleau from Facts 7-9 *supra*. App. Br. 7-12.

11. Rocheleau discloses that the flange element 28 includes a central opening and is installed by threading member 16 through the opening in flange 28 and into female threads 17 in valve body 10. Rocheleau, p. 2, ¶ 0016, col. 1, ll. 12-14; Fig. 6.

12. Rocheleau discloses that "[t]he flange element may be allowed to rotate relative to the valve body during assembly to allow the installer to select a preferred orientation." Rocheleau, p. 1, ¶ 0006, col. 2, ll. 5-7.

13. Rocheleau discloses that "[d]uring installation of the ball valve, the relative angular orientation of the flange element 28 and the valve body 10 can be adjusted. Once the desired orientation is chosen, bolts (not shown) extending through holes 30 into the circulator are tightened to retain the orientation." Rocheleau, p. 2, ¶ 0016, col. 1, ll. 18-22.

14. Bolts are inserted through the holes in mating flanges during installation of a ball valve into a circulator after the valve assembly has been assembled. *See* Rocheleau, p. 2, ¶ 0016, col. 1, ll. 8-10.

15. Thus, Rocheleau discloses that the bolts are necessary to retain the relative angular orientation of the flange element and the valve body, after assembly of the valve assembly.

16. As such, the flange element must be freely rotatable on the threading member 16 and relative to the threading member 16 and the valve housing 10 even after assembly of the valve assembly.

17. Keller discloses that one object of the invention is "to provide the bottom of the hole in the valve stem with an hexagonal configuration with a like configuration for the wrench to accomplish a secure connection between the wrench and valve stem for rotary motion." Keller, col. 1, ll. 25-29.

18. During assembly of Rocheleau's valve assembly components, the assembler may use a tool to impart relative rotary motion of the member 16 and the valve body 10 to effect a secure connection between the components.

19. Keller discloses an Allen Hex wrench tool 22 and a corresponding hexagonal-shaped section 21 of valve stem 17 into which the tool 22 may be inserted to adjust the relative position of the valve stem member 17 and cam member 16 to thereby effect a change in size of the orifice. Keller, col. 2, ll. 41-60.

PRINCIPLES OF LAW

Claim Construction

During examination of a patent application, pending claims are given their broadest reasonable construction consistent with the specification. *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969); *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004).

Written Description

The purpose of the written description requirement is to ensure that an application conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991). The possession test alone, however, is not always sufficient to meet the written description requirement. *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 969 (Fed. Cir. 2002). Rather, "the written description

requirement is satisfied by the patentee's disclosure of 'such descriptive means as words, structures, figures, diagrams, formulas, etc., that fully set forth the claimed invention.'" *Id.* (quoting *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997)). The claimed subject matter need not be described "*in haec verba*" in the original specification in order to satisfy the written description requirement. *In re Wright*, 866 F.2d 422, 425 (Fed. Cir. 1989).

Anticipation

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

Obviousness

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, ___, 127 S. Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 550 U.S. at ___, 127 S. Ct. at 1734

("While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.")

ANALYSIS

Claim Construction

Independent claims 22 and 27 recite a "valve assembly." The word "assembly" is used in these claims as a noun. The customary meaning of "assembly," as a noun, is a collection of parts fit together into a complete machine, structure, or unit (Fact 1). Claim 22 recites that one end of an insert is coupled to a valve housing, and a flange is freely rotatable relative to the insert and the valve housing when the insert is assembled to the valve housing. Claim 22 is clearly reciting the parts of the valve assembly as they are disposed relative to one another once the valve assembly has been assembled.

Claim 27 similarly recites one end of a body member of an insert being fixed to a valve housing, and a flange being freely rotatable on an exterior surface of the insert. Claim 27 likewise recites the parts of the valve assembly as they are disposed relative to one another once the valve assembly has been assembled.

Written Description Rejection

The Appellants' Specification adequately describes the flange being freely rotatable relative to the insert and valve housing when the insert is assembled to the valve housing, as recited in claim 22. Thus, the

Appellants' Specification sufficiently demonstrates that the Appellants were in possession of this claim element at the time of filing of the present application. In particular, the Appellants' Specification describes that the problem to be solved was to find a way to easily match up the bolt holes in the mating flanges used to couple an isolation valve to system components (Fact 2). The Specification further depicts an assembled isolation valve assembly that is described as containing a rotatable flange that rotatably fits on the exterior of the valve assembly insert (Facts 3-5). The Appellants' Specification further describes that the insert includes a lip to retain the rotatable flange on the assembled valve assembly, thereby implying that the central hole in the flange is large enough to allow the flange to be removed from the insert, and thus freely rotate about the exterior surface of the insert, but for the lip (Fact 6). Thus, a person of ordinary skill in the art would recognize that the Appellants were in possession of an isolation valve assembly having a flange freely rotatable relative to the insert and valve housing after assembly of the valve assembly as of the filing date of the present application. As such, we cannot sustain the Examiner's rejection of claims 22-25 under 35 U.S.C. § 112, first paragraph, for lack of sufficient written description.

Anticipation Rejection

The Appellants argue claims 22, 24, and 25 as a group. App. Br. 11-12. As such, we select claim 22 as a representative claim, and claims 24 and

25 stand or fall with claim 22. 37 C.F.R. § 41.37(c)(1)(vii) (2007). Claim 27 will be addressed separately *infra*.

The Examiner found that Rocheleau discloses all of the elements of claim 22 including "the flange being freely rotatable relative to the insert and the valve housing when the insert is assembled to the valve housing." Ans. 5. The Examiner's finding of anticipation is based on a reading of "when … assembled" as meaning during assembly of the valve assembly. The Appellants contend that the proper reading of "when … assembled" in the context of the claim language is that the flange is rotatable after assembly, and that under such an interpretation, Rocheleau does not anticipate claim 22 because it does not disclose that the flange is freely rotatable after assembly of the valve assembly. App. Br. 11. The Examiner states that "[t]he 102 rejection of claims 22, 24, and 25 will stand or fall with the interpretation of the limitation 'when… assembled.'" Ans. 10.

As explained *supra*, the meaning of "when … assembled" as used within the context of claim 22 means after the valve assembly has been assembled. Rocheleau nonetheless discloses all of the elements of claim 22, including a flange that is "freely rotatable relative to the insert and the valve housing when the insert is assembled to the valve housing" (Facts 7-16). In particular, Rocheleau discloses that "[o]nce the desired orientation is chosen, bolts (not shown) extending through holes 30 into the circulator are tightened to retain the orientation" (Fact 13). Thus, the bolts, which are inserted through the holes in mating flanges during installation of a ball valve into a circulator after the valve assembly has been assembled, are

necessary to retain the relative angular orientation of the flange element and the valve body, after assembly of the valve assembly (Facts 14 & 15). This means that Rocheleau's flange element is freely rotatable on the threading member 16 and relative to the threading member 16 and the valve housing 10 even after assembly of the valve assembly (Fact 16).

Claim 27 recites a flange having a central opening of a size and shape that allows the flange to be "freely rotatable on the exterior surface of the insert." As explained *supra*, the meaning of "assembly" as used within the context of claim 27 requires that the flange is freely rotatable after the valve assembly has been assembled. Rocheleau nonetheless discloses all of the elements of claim 27, including a flange that is "freely rotatable on the exterior surface of the insert" after assembly of valve assembly (Facts 7-16).

As such, the Appellants have failed to show error in the Examiner's rejection of claims 22, 24, 25, and 27 under 35 U.S.C. § 102(e) as anticipated by Rocheleau.

Obviousness Rejections

The Examiner rejected claims 22 and 27 under 35 U.S.C. § 103(a) as unpatentable over Rocheleau. As we found *supra*, Rocheleau discloses all of the limitations of claims 22 and 27. A disclosure that anticipates under 35 U.S.C. § 102 also renders the claim unpatentable under 35 U.S.C. § 103, for "anticipation is the epitome of obviousness." *Jones v. Hardy*, 727 F.2d 1524, 1529 (Fed. Cir. 1984). *See also In re Fracalossi*, 681 F.2d 792, 794 (CCPA 1982); *In re Pearson*, 494 F.2d 1399, 1402 (CCPA 1974).

The Examiner also rejected claims 23, 28, and 29 under 35 U.S.C. § 103(a) as unpatentable over Rocheleau and Keller. The Examiner relied on Keller for teaching the use of a polygonal cross-section to accommodate a tool coupling the insert to the valve body. Ans. 6. The Appellants argued that the disclosure in Keller cannot render the claimed subject matter obvious because Keller's valve stem accommodates a hex wrench to effect adjustment of the valve's closing point and does not disclose using a hexagonal section to couple anything together. App. Br. 15.

Keller discloses that one object of the invention is "to provide the bottom of the hole in the valve stem with an hexagonal configuration with a like configuration for the wrench to accomplish a secure connection between the wrench and valve stem for rotary motion" (Fact 17). Rocheleau discloses that the valve assembly is assembled by screwing together member 16 and valve body 10 (Fact 11). During assembly of the valve assembly components, the assembler may use a tool to impart relative rotary motion of the member 16 and the valve body 10 to effect a secure connection between the components (Fact 18). Keller discloses one such tool and suggests fashioning the corresponding hole with a configuration similar to the tool to accomplish a secure connection between the two (Fact 19). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the hex wrench of Keller with a corresponding hexagonal configuration in outlet port 26 of Rocheleau to effect rotary motion of the member 16 when inserting it into valve body 10, in order to achieve a secure connection between the tool and the workpiece. The use of

the improvement of a hex wrench and corresponding hexagonally-configured hole for a secure connection in the valve assembly of Rocheleau is nothing more than a predictable variation on the valve assembly of Rocheleau. *See KSR*, 550 U.S. at ___, 127 S. Ct. at 1740 ("if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.").

CONCLUSIONS

The Appellants have shown the Examiner erred in determining that the originally-filed Specification lacks sufficient written descriptive support for a flange that can rotate freely after assembly.

The Appellants failed, however, to show the Examiner erred in finding that Rocheleau discloses a flange that is freely rotatable relative to the insert and the valve housing of the valve assembly.

The Appellants further failed to show the Examiner erred in determining that one having ordinary skill in the art would have had a reason to combine the teachings of Rocheleau and Keller.

DECISION

The decision of the Examiner to reject claims 22-25 under 35 U.S.C. § 112, first paragraph, is REVERSED. The decision of the Examiner to reject claims 22, 24, 25, and 27 under 35 U.S.C. § 102(e) as anticipated by

Rocheleau, claims 22 and 27 under 35 U.S.C. § 103(a) as unpatentable over Rocheleau, and claims 23, 28, and 29 under 35 U.S.C. § 103(a) as unpatentable over Rocheleau and Keller is AFFIRMED.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED

vsh

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